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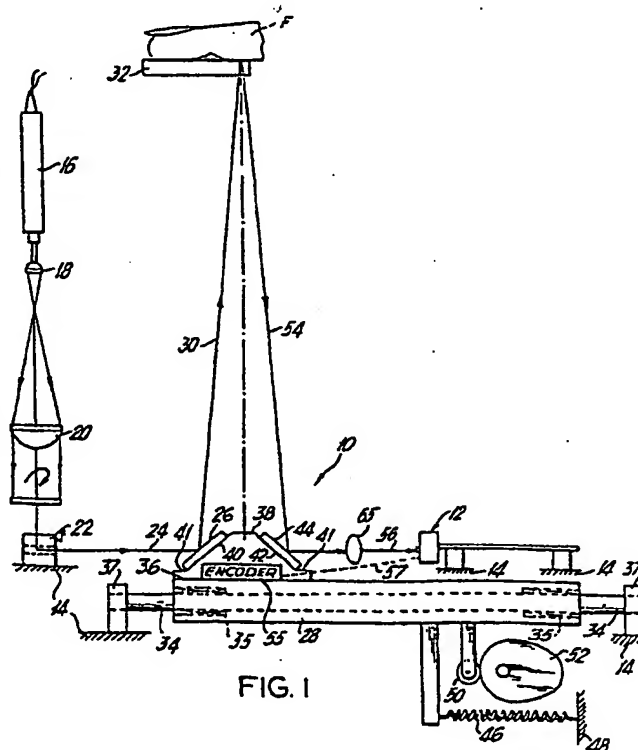
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(54) Finger Identification.

(57) A finger (F) pressed against a platen (32) provides a fingerprint object which is scanned by an interrogating beam of collimated light (30) in the form of a slit and that is linearly displaced across the platen. As the slit-beam scans across the back surface of the platen, the reflected light beam is modulated. The modulated beam is imaged onto a linear array of photodiodes (12) to provide a series of output signals indicative of modulation information. The outputs of the diodes are serially interrogated at each of successive scan positions to provide a set of signals containing fingerprint information. The platen has a transparent glass base (92). A layer of transparent, compressible, resilient epoxy (94) is on the back of the glass base (92). The epoxy layer (94) has a flat back surface. A thin silver reflecting layer (96) on the back surface of the epoxy provides a flat mirrored surface to reflect the light beam. A further epoxy layer (97) on top of the silver provides mechanical filtering. A lacquer layer (99) at the back protects the platen from wear. When a finger is applied to the back surface, the ridges of the finger distort the underlying layers sufficiently so that the reflected light at the ridge zones is scattered while the reflected light at the valley zones is collimated. This difference in scatter is transformed by an imaging lens (65) to a difference in intensity at the diode array (12).



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